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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEFFREY J. SPIEGELMAN

Appeal 2007-4233
Application 09/661,617¹
Technology Center 1700

Decided: January 8, 2008

Before RICHARD E. SCHAFER, JAMESON LEE and SALLY C.
MEDLEY, *Administrative Patent Judges*.

Opinion for the Board filed by MEDLEY, *Administrative Patent Judge*.

Opinion Dissenting filed by SCHAFER, *Administrative Patent Judge*.

MEDLEY, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Application for patent filed 14 September 2000. The real party in interest is Entegris Inc.

A. Statement of the Case

This is an appeal under 35 U.S.C. § 134 from the Examiner's Final Rejection² of claims 1 and 3-29³. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Hanson	US 5,315,521	May 24, 1994
Chang	US 5,873,263	Feb. 23, 1999
Beelitz	US 6,182,275	Jan. 30, 2001

Claims 1 and 3-29 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Chang in view of Hanson and further in view of Beelitz (Final Rejection 2-6 and Ans. 3-7).

BACKGROUND

The invention relates to an interactive method that enables an operator of a fluid purification system to order a complete package of fluid purification equipment that is optimized to the operator's requirements for the system. Utilizing a question and answer process, the operator will input his fluid purification system requirements such as the physical and chemical properties of the fluid, the contaminants in the fluid, fluid pressure, fluid temperature, fluid flow rate and the desired service life of the equipment, etc. Utilizing a relational database that identifies compatible equipment components, an entire equipment package including individual components

² The Final Rejection referred to herein is the second Final Rejection mailed 10 January 2006.

³ Claim 2 has been cancelled (Amendment filed 30 June 2003).

will be identified that is optimized for the operator's fluid purification system based on the requirements. The selection of the equipment package is done automatically free of user selection from and interaction with lists of individual components. (Spec. 3-5 and claim 1).

B. Issues

The first issue is whether Applicant has shown that the Examiner erred in determining that claims 1 and 3-28 are unpatentable under 35 U.S.C. § 103(a) over the prior art?

For the reasons that follow, Applicant has sufficiently shown that the Examiner erred in determining that claims 1 and 3-28 are unpatentable under 35 U.S.C. § 103(a) over the prior art.

The second issue is whether Applicant has shown that the Examiner erred in determining that claim 29 is unpatentable under 35 U.S.C. § 103(a) over the prior art?

For the reasons that follow, Applicant has sufficiently shown that the Examiner erred in determining that claim 29 is unpatentable under 35 U.S.C. § 103(a) over the prior art.

C. Findings of Fact ("FF")

The record supports the following finding of facts as well as any other findings of fact set forth in this opinion by at least a preponderance of the evidence.

- 1.Applicant's claims 1 and 3-29 are the subject of this appeal.
- 2.Claims 1 and 3-28 stand or fall together (App. Br. 12).

3.Claim 29 stands or falls by itself (App. Br. 20)⁴.

4.Claim 1 is as follows:

1. A method for identifying fluid purification equipment which is optimized for use in a particular fluid purification system, which comprises computer implemented steps of:
 - providing a relational database of specifications regarding a plurality of fluid purification components;
 - through an interactive interface, receiving user responses to a series of sequential inquiries, said inquiries piecewise eliciting from a user a set of defining information regarding said particular fluid purification system, each subsequent inquiry in the series being dependent on user responses to previous inquiries in the series, the set of defining information including operating parameters of said particular fluid purification system;
 - from across the whole series of sequential inquiries, forming the set of defining information from received user responses; and
 - using said formed set of defining information, searching specifications of said database in a manner that automatically identifies for the user a fluid purification equipment package in its entirety that is formed of a resultant set of one or more of the plurality of fluid purification equipment components from the specifications in the database, the resultant set of one or more identified components capable of being assembled to form fluid purification equipment in a manner specific to said particular fluid purification system as set forth by the set of defining information and operated to substantially satisfy the operating parameters therein for optimized fluid purification, the automatic identification of the fluid purification equipment package being performed in a manner free of user selection from and interaction with lists of individual components in the interactive interface.

⁴ Applicant appears to argue claim 29 together with claims 1 and 3-28 in the Reply Brief.

5. Claim 29 is as follows:

29. A computer-implemented method for identifying fluid purification equipment which is optimized for use in a particular fluid purification system, which comprises:

- providing a relational database of specifications regarding a plurality of fluid purification equipment components;
- through an interactive interface, providing a series of sequential inquiries to a user, each subsequent inquiry in the series being dependent on user responses to previous inquiries in the series, said series piecewise eliciting a body of defining information regarding said particular fluid purification system, the body of defining information including operating parameters of said particular fluid purification system;
- receiving user responses to the series of sequential inquiries and therefrom forming said body of defining information; and
- using said formed body of defining information to retrieve specifications from the database and therefrom automatically identifying for a user one or more fluid purification equipment packages each in its entirety, each identified fluid purification equipment package being formed of a respective resultant set of one or more of the plurality of fluid purification equipment components from the specifications in the database, the resultant set of one or more identified components capable of being assembled to form fluid purification equipment in a manner specific to said particular fluid purification system as defined by the body of defining information and operated to substantially satisfy the operating parameters therein for optimized fluid purification, the automatic identification of the fluid purification equipment packages being performed in a manner free of user selection from and interaction with lists of individual fluid purification equipment components in the interactive interface.

6. The Examiner found that Chang describes a fluid purification system including a filter **4**, transfer pump **51**, piping system **5**, sensors **56**, cooling vessel **1**, distillation device **6** (Final Rejection 2 and Ans. 3; Chang col. 3, l. 27- col. 4, l. 16 and **figs. 3-5**).

7.The Examiner found that Chang does not describe optimization of the fluid purification system (Final Rejection 2 and Ans. 3)

8.The Examiner found that Hanson generally describes that the optimization of fluid purification systems through process equipment selection and operation is well known in the art. (Final Rejection 2 and Ans. 3-4; Hanson col. 1, ll. 55-67).

9. The Examiner concluded that it would have been obvious to one with ordinary skill in the art to optimize the fluid purification of Chang through the use of optimization techniques well known in the art to facilitate efficient and effective operation of the fluid purification system (Final Rejection 2-3 and Ans. 4).

10.The Examiner also found that Chang does not specifically describe the method substantially claimed in claim 1 (Final Rejection 3-4 and Ans. 4-5).

11.The Examiner found that Beelitz describes a computer implemented method incorporating the use of a relational database and interactive user interface in configuring, building and selling a customizable computer system (Final Rejection 4 and Ans. 5).

12.The Examiner found that Beelitz relates effectively to the same problem and solution as that addressed by the claimed invention (Final Rejection 4 and Ans. 5).

13.The Examiner found that one of ordinary skill in the art would have recognized the suitability of applying the same or similar method as Beelitz by incorporating the relational databases and an interactive interface for the same intended purpose of configuring, building and selling a similarly customizable product such as a fluid purification system (Final Rejection 4 and Ans. 5).

14.The Examiner found that one with ordinary skill in the art would have had a reasonable expectation of success in applying the methodology of Beelitz in the configuring and selling of a customizable fluid purification system (Final Rejection 4 and Ans. 5).

15.The Examiner relies on *In re Venner*⁵ for the holding that providing an automatic or mechanical means to replace manual activity which accomplishes the same result is within the ambit of one with ordinary skill in the art (Final Rejection and Ans. 6).

16.The Examiner found that the use of a computer based method as taught by Chang in view of Beelitz merely substitutes or replaces a manual methodology of consulting print references, such as operating manuals or equipment catalogs in process design and optimization, which are well known in the art (Final Rejection 5 and Ans. 6).

17.The Examiner found that Beelitz describes instead of offering the user an explicit choice of an individual component, the disclosed method automatically determines the parameters of hardware components such as computer RAM size and the computer operating system (Final Rejection 5-6 and Ans. 7; Beelitz col. 18, l. 45-col. 19, l. 19).

18.The Examiner also found that a person of ordinary skill in the art would have had a reasonable expectation of success of incorporating a method step of automatically identifying components in a manner that is free of the user selecting individual components (Final Rejection 6, Ans. 7).

19.The Examiner concluded that it would have been obvious to one with ordinary skill in the art to incorporate a methodology of automatically identifying a set of compatible components that is performed in a manner free

⁵ 262 F.2d 91 (CCPA 1958).

of permitting the user to select individual components (Final Rejection 6 and Ans. 7).

20.Beelitz describes an interactive interface that presents a user with different choices of operating systems **204-207 (fig. 2)**, utilizes a relational database **125 (fig. 1)** to present the user with further choices of versions and languages **213-220 (fig. 2)** that are compatible with the previously selected operating system, again utilizes the relational database to present the user with further choices of hard drive preparation operations **302-306** and patches **310-314 (fig. 3)** that are compatible with the user's previous selections and again utilizes the relational database to present the user with further choices of compatible software programs **405-431 (fig. 4)** (col. 7, l. 36-col. 8, l. 53; col. 9, l. 47-col. 10, l. 67; col. 11, ll. 13-56; col. 11, l. 66-col. 12, l. 27).

21.Beelitz describes that the interactive interface presents a list of all the previously selected choices to the user **505-507 (fig. 5)** so that the user can approve or disapprove of the choices already made (col. 12, ll. 38-67).

22.Beelitz also describes that the user will chose the particular computer model (including hardware) as a package prior to the selection of the software components (col. 14, ll. 1-21).

23.Beelitz describes that the interactive interface can also present different processor choices to the user **604 (fig. 6)**, utilize the relational database to present compatible memory choices to the user **610-620** and further present compatible operating system choices to the user **623-629** prior to presenting choices of versions and languages, hard drive preparation operations, patches and software programs as described above in FF⁶ 20 (col. 15, l. 22-col. 16, l. 27).

⁶ FF denotes Finding of Fact.

24. Beelitz also describes a second embodiment in which a software selection program is run on a target computer system **605** that is connected to the database **125** and the software selection program includes a hardware sniffing program that detects the parameters of the already existing hardware (i.e. processor type, memory) on the target computer system (**fig. 7** and col. 18, l. 5-col. 19, l. 3).

25. The target computer system **605** accesses the database **125** via instructions of the software selection program to present lists of software programs that are compatible with the previous selections made by the user of the target computer system **605** for the user to select (**fig. 7** and col. 18, ll. 17-29).

26. The software selection program of the second embodiment utilizes the information obtained by the sniffing program to present lists of software programs that are compatible with the detected already existing hardware for the user to select (col. 18, l. 60-col. 19, l. 13).

27. In other embodiments utilizing the sniffing program, the user will be presented with lists of additional hardware components that are compatible with the detected already existing hardware (col. 19, ll. 14-20).

D. Principles of Law

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

“Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined.” *Id.*

E. Analysis

Claims 1 and 3-28

Applicant represents that claims 1 and 3-28 stand or fall together (FF 2). Claim 1 is representative and is the focus of our decision. Applicant apparently does not dispute the Examiner’s findings and conclusions with respect to Chang and Hanson (FFs 6-10). Instead, Applicant contends that the Examiner has failed to sufficiently demonstrate that Beelitz meets the limitation “searching specifications of said database in a manner that automatically identifies for the user a fluid purification equipment package in its entirety” as recited in claim 1 (App. Br. 17-19 and Reply Br. 9). Applicant explains the automatic identification limitation by pointing out that their invention does not require the user to indicate or select any specific part or component of the equipment package nor does it present questions to the user regarding specific component selections for the equipment package (App. Br. 17-19 and Reply Br. 9-11, 14). Consistent with Applicant’s explanation is the language of claim 1 that the automatic identification is “performed in a manner free of user selection from and interaction with lists of individual components in the interactive interface”. Moreover, claim 1 further defines that the equipment package is “formed of a resultant set of

one or more of the plurality of fluid purification equipment components”⁷ and the specifications of the database are “regarding a plurality of fluid purification equipment components”.

The Examiner relied on Beelitz to meet the limitation “searching specifications of said database in a manner that automatically identifies for the user a fluid purification equipment package in its entirety”, where the identifying is “performed in a manner free of user selection from and interaction with lists of individual components in the interactive interface” (FFs 11-14, 17-19). Applicant argues that Beelitz is not suggestive of the claimed invention because it discloses a piecewise component by component user selection methodology in which a user selects individual components from pick lists (App. Br. 19-20). We understand Applicant to argue that the Examiner has not addressed and Beelitz does not suggest searching equipment component specifications of a relational database in a manner that automatically identifies an equipment package in its entirety (comprising one or more components) without user selection from and interaction with lists of individual components.

The Examiner briefly addresses the relational database limitation by directing us to column 2, lines 20-67, column 3, lines 32-43 and column 4, lines 5-62 of Beelitz (FF 11). These sections essentially describe a database that is utilized to generate lists of compatible options for selection by a user

⁷ In his arguments, Applicant implies the claim limitation “equipment package in its entirety” is synonymous with a whole solution, a complete package of parts, a combination of parts or a complete package of components (App. Br. 12, 15-20 and Reply Br. 9-10, 13-14). However, we note that the equipment package in its entirety could comprise just one equipment component, such as a single filter, since claim 1 defines that it “is formed of a resultant set of *one* or more of the plurality of fluid purification equipment components”.

when ordering a build-to-order computer system (FF 20-23). The lists are generated, for example, based on user selection from and interaction with lists of individual components, the opposite of what is claimed (e.g., col. 15, lines 47-49 “In step 607, control provides the list to the user interface 105. The user selects a desired CPU from the list displayed on the terminal screen.” And col. 15, lines 54-67 “... control accesses the master data base 125 to generate a list of RAM sizes and types that are available and compatible with the selected CPU. ... In step 616, control provides the list [of RAM sizes] to the user interface 105 which is presented to the user by the user interface.”).

The Examiner found that Beelitz also describes that automatically “identifying the fluid purification equipment is performed in a manner free of the user selecting individual components” (Final Rejection 5-6, and Ans. 7). In support of this contention, the Examiner cites column 18, line 45 through column 19, line 19 of Beelitz. The Examiner relies on that section as describing instead of offering the user an explicit choice of an individual component, the disclosed method automatically determines the parameters of the hardware components such as computer RAM size and the computer operating system using a sniffing program (FF 17).

Even assuming that the determination of the parameters of the hardware components by the hardware sniffing program in Beelitz is suggestive of automatic identification of an equipment package without user interaction with lists of components, the Examiner fails to address the claim requirement that the automatic identification of the equipment package absent user interaction with lists of equipment components is accomplished by way of searching equipment component specifications of a database. In

other words, the Examiner has failed to direct us to any description that the hardware sniffing program searches component specifications in a database to automatically identify equipment.

Instead, Beelitz describes a software selection program that utilizes the hardware sniffing program to determine the existing hardware configuration of a target computer (FF 24-27). Utilizing this information, the software selection program then accesses the relational database to present to a user, during an interactive selection process, lists of software programs or additional hardware components that are compatible with the determined hardware configuration (FF 24-27). In other words, it's not the hardware sniffing program of Beelitz that utilizes the relational database as apparently asserted by the Examiner, but it is the software selection program that utilizes the relational database and it does so during a selection process that requires a user to interact with lists of components as explained above. The software selection program accessing the database during the interactive selection process, as described by Beelitz, is counterintuitive to Applicant's claimed invention because it requires the user to interact and select components from a list (FFs 20-27) while the claimed invention provides an automatic methodology that expressly precludes user interaction with and selection of components from lists. As applied by the Examiner, neither Chang nor Hanson make up for the deficiencies of Beelitz.

Applicant also argues that the Examiner's rejection under *In re Venner* is unfounded (Reply Br. 5). The Examiner found that the use of a computer based method merely substitutes or replaces a manual methodology of consulting print references such as operating manuals or equipment catalogs in process design and optimization, which are well known in the art (FFs 15-

16). However, the Examiner has not demonstrated that the method steps are known to be performed manually. Specifically, the Examiner has not demonstrated that it was known in the art to manually perform the step of searching specifications of equipment components in a database (i.e. print references, operating manuals or equipment catalogs) and identifying an equipment package without the user selecting from and interacting with lists of components. Consulting print references such as operating manuals or equipment catalogs is contrary to Applicant's claimed invention that precludes the user from selecting and interacting with lists of components. For these reasons, Applicant has sufficiently demonstrated that the Examiner erred in determining that claims 1 and 3-28 are unpatentable under U.S.C. § 103(a) over the prior art.

Claim 29

The wording of claim 29 differs slightly from that of claim 1. Instead of "a fluid purification equipment package in its entirety", claim 29 recites "one or more of fluid purification equipment packages each in its entirety". Also, in place of "searching specifications of said database in a manner that automatically identifies", claim 29 recites "retrieving specifications from the database and therefrom automatically identifying". The differences in language between claim 1 and claim 29 are minor and of no consequence to our decision above. For all the same reasons explained above in the section addressing claims 1 and 3-28, Applicant has sufficiently demonstrated that the Examiner erred in determining that claim 29 is unpatentable under 35 U.S.C. § 103(a) over the prior art.

Decision

The Examiner's rejection of claims 1 and 3-29 as unpatentable under 35 U.S.C. § 103(a) over Chang in view of Hanson and further in view of Beelitz is reversed.

REVERSED

SCHAFER, Dissenting

Claims 1 and 29 appear to me to be nothing more than the application of a computer implemented expert system to a particular use – identifying fluid purification equipment optimized for a specific purification system. Broadly specifying the field of use and the information content of the data base which is queried as part of the system does not, in my view, patentably distinguish the claimed method. The Hanson, Chang and Beelitz references cited by the examiner demonstrate the need to identify fluid purification components. The use of a computer implemented expert system to facilitate identification would have been an obvious solution to this problem. In my view, the broad methods set out in Claims 1 and 29 would have been obvious. I would affirm the examiner's rejections of these claims.

sd

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